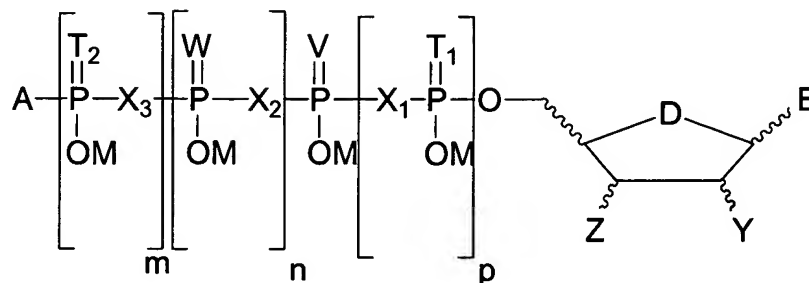


**In the Claims:**

1. (Previously Presented) A compound of Formula I, or a pharmaceutically acceptable salt thereof:

**Formula I**

wherein

A is a covalently bound substituent having a maximum molecular weight of 1000 and is  $OR_1$  or  $SR_1$ , wherein  $R_1$  is cycloalkyl without substituents, aryl, arylalkyl, phosphonate, or acylthioalkyl with or without substituents or heteroatoms;

$X_1$ ,  $X_2$ , and  $X_3$  are independently oxygen, methylene, monochloromethylene, dichloromethylene, monofluoromethylene, difluoromethylene, or imido;

$T_1$ ,  $T_2$ , W, and V are independently oxygen or sulfur;

$m = 0, 1$ , or  $2$ ;

$n = 0$  or  $1$ ;

$p = 0, 1$ , or  $2$ ;

where the sum of  $m+n+p$  is from 0 to 5;

M = H or a pharmaceutically-acceptable inorganic or organic counter ion;

D = O or  $CH_2$ ;

B is a purine or a pyrimidine residue according to general Formulae IV and V which is linked to the 1' position of the furanose or carbocycle via the 9- or 1- position of the base, respectively;

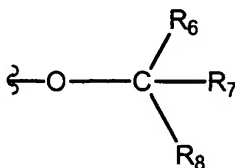
Y = H, OH, or  $OR_4$ ;

Z = H, OH, or  $OR_5$ ; with the proviso that Y and Z are both not H;

$R_4$  and  $R_5$  are residues which are linked directly to the 2' and /or 3'

oxygen of the furanose or carbocycle via a carbon atom according to Formula II, or linked directly to the two 2' and 3' oxygens of the furanose or carbocycle via a common carbon atom according to Formula III;

Formula II



wherein:

O is the corresponding 2' and/or 3' oxygen of the furanose or carbocycle;

C is the carbon atom;

R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are H, an alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety defined according to Formula II is an ether; or

R<sub>6</sub> and R<sub>7</sub> are H, an alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, and R<sub>8</sub> is alkoxy, cycloalkoxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy such that the moiety defined according to formula II is an acyclic acetal or ketal; or

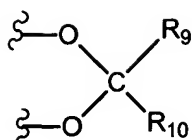
R<sub>6</sub> and R<sub>7</sub> are taken together as oxygen or sulfur doubly bonded to C, and R<sub>8</sub> is alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety defined according to Formula II is an ester or thioester; or

R<sub>6</sub> and R<sub>7</sub> are taken together as oxygen or sulfur doubly bonded to C, and R<sub>8</sub> is amino or mono- or disubstituted amino, where the substituents are alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, such that the moiety according to Formula II is a carbamate or thiocarbamate; or

R<sub>6</sub> and R<sub>7</sub> are taken together as oxygen or sulfur doubly bonded to C, and R<sub>8</sub> is alkoxy, cycloalkoxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy, such that the moiety according to Formula II is a carbonate or thiocarbonate; or

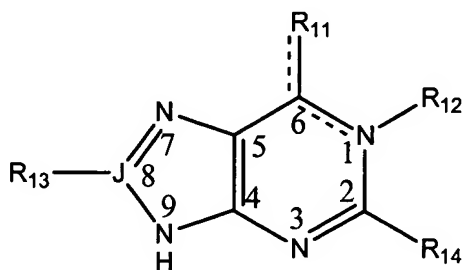
R<sub>8</sub> is not present and R<sub>6</sub> and R<sub>7</sub> are taken together as oxygen or sulfur doubly bonded to C and both the 2' and 3' oxygens of the furanose are directly bound to C to form a cyclical carbonate or

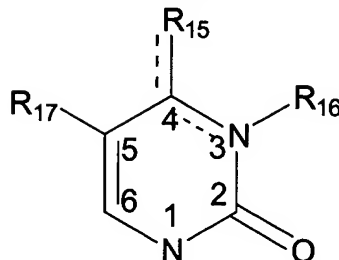
### Formula III



for cyclical acetals and ketals, R<sub>9</sub> and R<sub>10</sub> are independently hydrogen, alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, substituted aryl, or can be joined together to form a homocyclic or heterocyclic ring composed of 3 to 8 atoms; for cyclical orthoesters, R<sub>9</sub> is hydrogen, alkyl, cycloalkyl, aralkyl, aryl, substituted aralkyl, or substituted aryl, R<sub>10</sub> is alkyloxy, cycloalkyloxy, aralkyloxy, aryloxy, substituted aralkyloxy, or substituted aryloxy;

### Formula IV



**Formula V**

wherein:

$R_{11}$  and  $R_{15}$  are hydroxy, oxo, amino, mercapto, alkylthio, alkyloxy, aryloxy, alkylamino, cycloalkylamino, aralkylamino, arylamino, diaralkylamino, diarylamino, or dialkylamino, where the alkyl groups are optionally linked to form a heterocycle; or

$R_{11}$  and  $R_{15}$  are acylamino; or

when  $R_{11}$  in a purine or  $R_{15}$  in a pyrimidine has as its first atom nitrogen,  $R_{11}$  and  $R_{12}$  or  $R_{15}$  and  $R_{16}$  are taken together to form a 5-membered fused imidazole ring optionally substituted on the etheno ring with alkyl, cycloalkyl, aralkyl, or aryl moieties;

when  $R_{15}$  in a pyrimidine has as its first atom oxygen,  $R_{15}$  and  $R_{17}$  are taken together to form a 5-membered dihydrofuran ring, optionally substituted on the dihydrofuran ring with alkyl, cycloalkyl, aralkyl, or aryl moieties;

J is carbon or nitrogen, with the provision that when nitrogen,  $R_{13}$  is not present;

$R_{12}$  is hydrogen, O or is absent;

$R_{16}$  is hydrogen, or acyl;

$R_{13}$  is hydrogen, alkyl, bromo, azido, alkylamino, arylamino or aralkylamino, alkoxy, aryloxy or aralkyloxy, alkylthio, arylthio or aralkylthio, or  $\omega$ -E(C<sub>1-6</sub> alkyl)G-, wherein E and G are independently amino, mercapto, hydroxy or carboxyl;

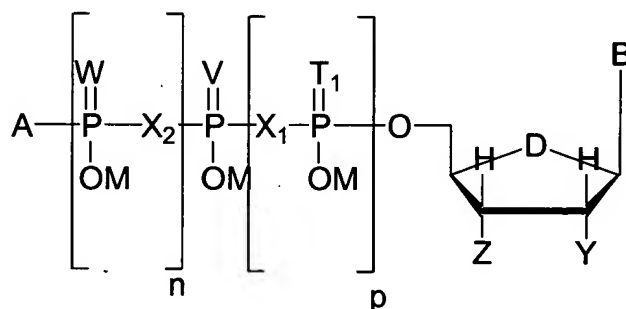
$R_{14}$  is hydrogen, chlorine, amino, monosubstituted amino, disubstituted amino, alkylthio, arylthio, or aralkylthio, where the substituent on sulfur contains up to a maximum of 20 carbon atoms, with or without unsaturation; and

$R_{17}$  is hydrogen, methyl, alkyl, halo, alkyl, alkenyl, substituted alkenyl, alkynyl, or substituted alkynyl.

2. (Previously Presented) The compound according to Claim 1, wherein:  
 A is  $OR_1$  or  $SR_1$ , wherein  $R_1$  is cycloalkyl without substituents, aryl, arylalkyl, phosphonate, or acylthioalkyl with or without substituents or heteroatoms;  
 $X_1$ ,  $X_2$ , and  $X_3$  are each oxygen;  
 $T_1$ ,  $T_2$ ,  $W$ , and  $V$  are each oxygen;  
 $D = O$ .

3. (Previously Presented) The compound according to Claim 1, wherein Formula I is a compound of Formula Ia:

Formula Ia



wherein the variable groups have the definitions as described in Claim 1.

4. (Canceled)
5. (Original) A pharmaceutical composition comprising a compound of Formula I of Claim 1 in a pharmacologically acceptable carrier.
6. (Previously Amended) A compound selected from the group consisting of: 2'3'-O-methylenebenzyl  $\beta$ -(cyclohexyl) UDP, 2'-phenylcarbamoyl  $\beta$ -benzyl UDP, 2'-(phenoxy)formyl  $\beta$ -propyl UDP, 6-phenyl-furanopyrimidine riboside  $\beta$ -(3-carboxyphenyl)methyl diphosphate, 4-thiobenzyl pyrimidine riboside  $\beta$ -benzyl diphosphate,

2',3'-dibenzoyl  $\beta$ -propyl UDP, 5-(3-methoxyphenyl)ethenocytosine 2'-deoxy-3'-phenylcarbamoyl riboside  $\beta$ -propyl diphosphate, N<sup>4</sup>-propyl-2',3'-dibenzoyl  $\beta$ -benzyl CDP, 2'-deoxy  $\gamma$ -benzyl UTP,  $\gamma$ -(thiocyclohexyl) UTP, 6-(3-methylphenyl)-furanopyrimidine riboside  $\delta$ -(2-naphthalenemethyl) tetraphosphate, 2'3'-O-methylenebenzyl  $\gamma$ -propyl UTP, 5-(3-methylphenyl)ethenocytosine 2'3'-O-methylenebenzyl riboside  $\delta$ -propyl tetraphosphate, 5-(3-methoxyphenyl)ethenocytidine riboside  $\gamma$ -(2-naphthalenemethyl) triphosphate, N<sup>4</sup>-(benzyloxyformyl)-2'-deoxy  $\gamma$ -benzyl CTP, N<sup>4</sup>,3'-dibenzoyl-2'-deoxy  $\gamma$ -(2-naphthylmethyl) CTP, 2'3'-O-methylenebenzyl  $\gamma$ -(2-naphthalene) ATP, 2-thiopropyl-2'3'-O-methylenebenzyl  $\gamma$ -benzyl ATP, and 2-thiomethyl-N<sup>6</sup>-propyl-2'3'-O-methylenebenzyl  $\gamma$ -(2-naphthalene) ATP.

7. (Previously Amended) The compound according to Claim 6, wherein the compound is selected from the group consisting of: 2'3'-O-methylenebenzyl  $\beta$ -(cyclohexyl) UDP, 5-(3-methoxyphenyl)ethenocytosine 2'-deoxy-3'-phenylcarbamoyl riboside  $\beta$ -propyl diphosphate, 2'3'-O-methylenebenzyl  $\gamma$ -(propyl) UTP, 5-(3-methylphenyl)ethenocytosine 2'3'-O-methylenebenzyl riboside  $\delta$ -propyl tetraphosphate, and 2-thiopropyl-2'3'-O-methylenebenzyl  $\gamma$ -benzyl ATP.

8. (Canceled)

9. (Currently Amended) The pharmaceutical composition according to Claim [[8]] 5, wherein the compound is in a formulation selected from the group consisting of: aqueous solution, liquid/liquid suspension, gel, gel-like, and solid formulations.

10-20. (Canceled)